Amended Patent Claims

- 1. Method for measuring the oxygen content in a closed target space (10), particularly for monitoring inertization levels in an inert gas device for fire prevention and/or fire extinguishing (15), with the following steps:
- a) an air sample is drawn from the target space (10) by means of a series of suction holes (2) of a suction pipe system (1);
- b) the oxygen concentration of the drawn air sample is determined by means of an oxygen sensor (3a, 3b),

characterized by

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the following steps after step b):

- b1) the oxygen concentration in the air sample is determined by a reference oxygen sensor (3b);
- b2) the measurement value of the oxygen concentration of the air sample which is determined in step b) is compared to the measurement value of the oxygen concentration of the reference oxygen sensor (3b); and
- b3) if the deviation of the measurement value of the oxygen concentration of the oxygen sensor (3a) from the measurement value of the oxygen concentration of the reference oxygen sensor (3b) is exceeded, the oxygen sensor (3a) or the reference oxygen sensor (3b) sends a disturbance signal. [sic]
 - 2. Method according to claim 1,

characterized by

the following additional steps following step b):

- c) the measurement value of the oxygen concentration of the air sample is compared in the oxygen sensor (3a, 3b) to fixed threshold values;
- d) if the fixed threshold value is exceeded, the oxygen concentration is lowered by means of the infusion of inert gas into the target space (10).
- 3. Method according to claim 1 or 2, characterized by

	the following additional steps before or with step b):
	b4) fire parameters in the drawn air sample are measured by a detector (4);
	b5) if a fire parameter is detected, the detector (4) sends a signal for full
	inertization of the target space (10).
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	4. Method according to claim 3,
	characterized in that
	the fire parameters that are detected in the detector (4) include smoke in the
	form of particulates, aerosols, or vapor, and at least one combustion gas.
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	5. Method according to claim 4,
	characterized in that
	the combustion gas detected in the detector (4) is CO or CO ₂ .
15	6. Method according to one of the preceding claims,
	characterized by
	the following additional steps following step a):
	b6) the CO and/or CO ₂ content in the drawn air sample are monitored by a CO
	and/or CO ₂ sensor (5);
20	b7) fresh air is supplied to the target space (10) in dependence on the
	measurement value of the CO and/or CO ₂ content.
	7. Method according to one of the preceding claims,
	characterized in that
25	the reference oxygen sensor (3b) for determining the oxygen concentration in
	the air sample is switched on at regular time intervals.
	8. Method according to one of the claims 2 to 7,
	characterized by
30	the following step after step b3):

b8) following the transmission of the disturbance signal, the reference oxygen sensor (3b) continuously determines the oxygen concentration in the air sample, whereupon the additional evaluation of the measurement value of the oxygen concentration in step c) is performed with the aid of the measurement value that is determined by the reference oxygen sensor (3b) instead of the measurement value determined by the oxygen sensor (3a).

9. Device for carrying out the method according to one of the claims 1 to 8, particularly as part of an inert gas device for fire prevention and/or fire extinguishing (15) in a closed room (10), having at least one suction pipe system (1) for sucking an air sample from the monitored target space (10) through various holes (2),

characterized by

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a reference oxygen sensor (3b) for measuring the oxygen concentration in the air sample that is drawn from the target space (10) as a reference relative to oxygen sensor (3a).

10. Device according to claim 9, having in addition a control (5) by means of which inertization levels in the target space (10) are set, and the fresh air supply (11) and fan (9) are controlled,

characterized by

at least one oxygen sensor (3) for measuring the oxygen concentration in an air sample that is drawn from the target space (10), and by

at least one detector (4) for detecting fire parameters in an air sample that is drawn from the target space (10) by one of the suction pipe systems (1).

11. Device according to claim 9 or 10,

characterized by

at least one CO or CO_2 sensor (5) for measuring the air quality in an air sample that is drawn from the target space (10) by one of the suction pipe systems (1).

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12. Device according to one of the claims 9 to 11, characterized in that

at least one of the oxygen sensors (3a, 3b) and/or at least one of the detectors (4) and/or at least one of the CO or CO₂ sensors (5) are integrated in one of the suction pipe systems (1).

13. Device according to one of the claims 9 to 12, characterized in that

electrochemical cells of zirconium dioxide are utilized as oxygen sensors (3a,

10 3b).